20

5

10

WHAT IS CLAIMED AS NEW AND IS DESIRED TO BE SECURED BY LETTERS PATENT OF THE UNITED STATES IS:

- 1. A method of inducing cellular immunity against a virus comprising administering to a patient anucleic acid encoding an envelope glycoprotein of said virus, in an amount sufficient to induce cellular immunity against the virus, wherein said envelope glycoprotein
 - (a) contains a modified immunodominant epitope; and
 - (b) induces cellular immunity to a conserved epitope of said envelope glycoprotein.
- 2. The method of Claim 1, wherein said nucleic acid is introduced into antigen presenting cells (APCs) and said APCs are administered to the patient.
 - 3. The method of Claim 1, wherein said virus is a lengivirus.
- 4. The method of Claim 2, wherein said lentivirus is human immunodeficiency virus (HIV).
- 5. The method of Claim 1, wherein aid immunodominant epitope is the third variable loop (V3) of said envelope glycoprotein.
- 6. The method of Claim 1, wherein said immunodominant epitope is a neutralization epitope.
- 7. The method of Claim 2, wherein said APCs stimulate peripheral blood mononuclear cells (PBMCs).
- 8. The method of Claim 7, wherein said PBMCs exhibit increased cytotoxic T-lymphocyte (CTL) activity against conserved epitopes of the envelope glycoprotein compared to PBMCs stimulated with APCs encoding a full-length envelope glycoprotein.
- 9. The method of Claim 2, wherein said APCs encoding the modified envelope glycoprotein are resistant to antibody-dependent cell-mediated cytotoxicity (ADCC).

11. The method of Claim 2, wherein said APCs encoding the modified envelope glycoprotein do not undergo apoptosis.

- 12. The method of Claim 2, wherein said APCs encoding the modified envelope glycoprotein induce cellular immunity to said virus without inducing apoptosis of CD4⁺ T cells.
 - 13. The method of Claim 1, wherein the immunodominant epitope is deleted.
 - 14. A method for preparing a vaccine against a virus comprising:
- (a) introducing into a vector DNA or liposome a nucleic acid encoding an envelope glycoprotein of said virus, wherein said envelope glycoprotein contains a modified immunodominant epitope; and
 - (b) mixing said vector DNA or liposome with a suitable adjuvant.
- 15. The method of Claim 14, wherein said nucleic acid is introduced into APCs and said APCs are mixed with the adjuvant.
 - 16. The method of Claim 14, wherein said virus is a lentivirus.
- 17. The method of Claim 15, wherein said lentivirus is human immunodeficiency virus (HIV).
- 18. The method of Claim 14 pherein said immunodominant epitope is the third variable loop (V3) of said envelope glycoprotein.

20

5



5

- 19. A vaccine for inducing cellular immunity against a virus comprising:
- (a) cells expressing on their surfaces an envelope glycoprotein of said virus, wherein said envelope glycoprotein contains a modified immunodominant epitope; and
 - (b) an adjuvant.

20. The method of Claim 19, wherein said virus is human immunodeficiency virus

(HIV

0002/ 000

-45-